WHAT IS CLAIMED IS:

1. A cross joint comprising:

a cross shaft member including,

a four pieces of shafts each having a neck portion and a race portion, and

shoulder portions provided between adjacent two neck portions;

rolling members adapted to rotate on the race portions; and

outer ring members fitted to the respective shafts via the rolling members,

wherein the race portions and the shoulder portions are subjected to roller burnishing.

2. The cross joint according to claim 1, wherein a race portion formed on the outer ring member is subjected to roller burnishing.

3. The cross joint according to Claim 1, wherein a residual compressive stress at a depth of at least 0.3mm from each of surfaces of the race portions and the shoulder portion subjected to the roller burnishing is made to be equal to or larger than 800 MPa.

4. The cross joint according to Claim 1, wherein the cross

shaft member and the outer ring member includes a carbon steel for a mechanical structure having a carbon content equal to or larger than 0.42 weight %.

5. A method of manufacturing a cross joint which includes: a cross shaft member including, a four pieces of shafts each having a neck portion and a race portion, and shoulder portions provided between adjacent two neck portions; rolling members adapted to rotate around the race portions; and outer ring members fitted to the respective shafts via the rolling members, the method comprising the step of subjecting the race portions and the shoulder portions to roller burnishing.

6. The method according to claim 5 further comprising the step of subjecting a race portion formed on the outer ring member to roller burnishing.